

SYMMETRIC MULTI-PROCESSING SYSTEM
ABSTRACT OF THE INVENTION

5 A method and system for attached processing units accessing a shared memory
in an SMP system. In one embodiment, a system comprises a shared memory. The
system further comprises a plurality of processing elements coupled to the shared
memory. Each of the plurality of processing elements comprises a processing unit, a
direct memory access controller and a plurality of attached processing units. Each direct
memory access controller comprises an address translation mechanism thereby enabling
10 each associated attached processing unit to access the shared memory in a restricted
manner without an address translation mechanism. Each attached processing unit is
configured to issue a request to an associated direct memory access controller to access
the shared memory specifying a range of addresses to be accessed as virtual addresses.
The associated direct memory access controller is configured to translate the range of
15 virtual addresses into an associated range of physical addresses.